Prepared for:

LCP SITE STEERING COMMITTEE

SUPPLEMENTAL SITE CHARACTERIZATION WORK PLAN FOR OPERABLE UNIT 2: CELL BUILDING AREA SURFACE SOIL

LCP CHEMICALS SITE BRUNSWICK, GEORGIA

Prepared by:

MONTROSE ENVIRONMENTAL
400 Northridge Road, Suite 400
Sandy Springs GA 30350
Tel: 404-315-9113

March 2021

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Kirk Kessler, P.G.
Vice President of Remediation

Alex Testoff, P.E.
Associate

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Acronyms and Abbreviations

AOC	Administrative Order of Consent
ARCO	Atlantic Richfield Company
CBA	Cell Building Area
CBASI	Cell Building Area Subsurface Investigation
COPC	Constituents of Potential Concern
EPA	United States Environmental Protection Agency
HHBRA	Human Health Baseline Risk Assessment
Montrose	Montrose Environmental Solutions
MS/MSD	Matrix spike/matrix spike duplicate
OU	Operable Unit
PAH	Polycyclic Aromatic Hydrocarbon
PCB	Polychlorinated biphenyl
QA/QC	Quality assurance/quality control
RI/FS	Remedial Investigation and Feasibility Study
RP	Responsible Party
Site	LCP Chemicals Superfund Site
SOP	Standard Operating Procedure
SVOC	Semi-Volatile Organic Compound
TAL	Target Analyte List
VOC	Volatile Organic Compound

1 INTRODUCTION

Honeywell and the Atlantic Richfield Company ("ARCO") are Responsible Parties ("RPs") to an Administrative Order of Consent ("AOC") EPA Docket No.: 95-17-C with the U.S. Environmental Protection Agency ("EPA"), to conduct a Remedial Investigation and Feasibility Study ("RI/FS") for the LCP Chemicals Superfund Site (the "Site") located in Brunswick, Georgia (EPA,1995). The EPA is administering the Site as three Operable Units ("OUs"): OU1 pertains to the salt marsh; OU2 pertains to site-wide groundwater and the footprint of the former mercury cell building area ("CBA") (both soil and groundwater); and OU3 pertains to the upland soil excluding the CBA.

In October 2020, the RPs submitted a technical memorandum (herein referred to as the "OU2 HHRA Memo") presenting the initial elements in the development of the Human Health Baseline Risk Assessment ("HHBRA") for OU2, namely the identification of Constituents of Potential Concern ("COPCs") and the Exposure Assessment, which will form the basis for the computational risk assessment (EPS, 2020). EPA provided comment on the OU2 HHRA Memo in a letter dated January 8, 2021, to which the RPs responded in a letter (with attachments) dated February 1, 2021. After further dialogue between EPA and Environmental Planning Specialists, Inc. (dba: Montrose Environmental Solutions ("Montrose")) regarding the soil cover over the CBA it was concluded that although the majority of the area has a minimum of 2 ft soil cover, there is a small portion that had less than two feet such that additional characterization would be performed of surface soil in the CBA along the fringe of the soil cover (where native soil exists in the upper 2 feet).

An overview of the prior investigations is provided in Section 2 of this work plan (Section 2). Section 3 describes the proposed work scope to address the desired additional characterization, and Section 4 provides the anticipated work schedule.

2 OVERVIEW OF THE WORK PERFORMED TO DATE IN THE CBA

Between 1994 and 1995, two investigations performed as part of the upland removal response action targeted shallow soil across the footprint of the CBA (prior to subsequent placement of the soil cover) including soil beneath the cell building concrete floor slab. The initial investigation collected shallow soil with a hand auger, either in the soil adjacent to each cell building or beneath the building after coring through the concrete foundation slab. Soil samples were tested for metals, volatile organic compounds ("VOCs"), polycyclic aromatic hydrocarbons ("PAHs") and polychlorinated biphenyl ("PCB") Aroclors. In 1995, the soil study was expanded to include mechanical excavation (*i.e.*, test pits) in areas of interest to allow for a more thorough assessment of the sub-foundation soil condition. The test pit program included a visual assessment of the soil for metallic mercury and analytical testing for mercury, lead, VOCs, PAHs, and PCB Aroclors.

Additional characterization of the CBA was performed in 1996-1997 under the Cell Building Area Subsurface Investigation ("CBASI") program. One element of the CBASI program comprised a deep soil assessment designed to characterize the nature and extent of metallic mercury in subsurface soils beneath the cell buildings and profile the underlying geologic subsurface. The deep soil assessment was performed at 14 locations: ten borings beneath Cell Building 1, one boring south of Cell Building 2, one boring at the mercury retort, and two borings in the caustic storage and rail locating area. These borings were advanced to the semi-confining layer (*i.e.*, the cemented sandstone). The assessment of liquid mercury was performed primarily through visual assessment (*i.e.*, presence of beads or pooled liquid mercury) but included laboratory testing for mercury.

The most recent CBA characterization occurred in 2018 and comprised of continuous soil coring to the base of the Satilla at 18 locations within the CBA and 1 location north of the CBA. Portions of each core were systematically sampled at a vertical interval of generally 4 feet for the purpose of quantifying the mercury concentration. Additional testing of subsurface soil across the CBA involved target analyte list ("TAL") metals and PAHs, in accordance with the *Site Characterization Work Plan for OU2* dated August 2018 (EPS, 2018).

3 ADDITIONAL CHARACTERIZATION WORK SCOPE

3.1 Proposed Work Scope

Figure 1 depicts the proposed locations for additional surface soil characterization, which are positioned along the perimeter of the CBA risk evaluation area where the soil cover thickness is computed at less than 1 foot[1]. Soil from within the top foot of the native soil horizon (below the soil cover, but no deeper than 2 feet below ground surface) will be collected using a hand auger according to the procedures outlined in Section 4.3 of Soil Sampling (*SESDPROC-300-R3*) developed by the EPA (EPA, 2014) and tested for VOCs (Method 8260C), semi-volatiles ("SVOCs") (Method 8270D SIM), TAL metals (Method 6020), including mercury (Method 1631B), and PCB Aroclors (Method 8082A).

The sampling design involves 10 locations equidistant along the northern, eastern, and southern margins of the CBA soil cover. This will provide sufficient sample count to derive a statistical measure (e.g., 95% UCL of the mean) for the exposure point concentration ("EPC") in the risk assessment.

Analytical testing will be performed by Eurofins Science for consistency with the previous (2018) CBA investigation. Eurofins accreditations (certifications) and standard operating procedures ("SOPs") for testing and quality assurance/quality control ("QA/QC") are available upon request.

3.2 Quality Assurance/Quality Control

QA/QC samples will be collected to allow for evaluation of data quality. QA/QC samples will include blind duplicates, equipment blanks, and matrix spikes/matrix spike duplicates ("MS/MSDs"). Blind duplicates and MS/MSDs will be analyzed at a frequency of 5% consistent with Sections 3.3.3 and 3.6 of *Field Sampling Quality Control (SESDPROC-011-R5)* (EPA, 2017), respectively. One equipment blank sample will be collected to verify the efficiency of the decontamination procedures.

[1] The western perimeter is intentionally not proposed for sampling as the area contains infiltration galleries (built up from the topographic elevation date of the LiDAR used in the computational analysis of cover thickness).

4 SCHEDULE

The field investigation will commence as soon as practicable after EPA's approval of this Work Plan. Laboratory testing followed by an independent third-party data validation is expected to require 45 calendar days. The HHBRA will proceed in parallel to the sampling activity and will be incorporated into the RI Report. Data obtained from execution of this Work Plan will be incorporated into the RI Report, if available, or otherwise into the subsequent FS Report.[2]

[2] Risk and hazard calculations will be updated at this time, incorporating the results of the of the additional CBA investigation.

5 REFERENCES

[EPS] Environmental Planning Specialists, Inc. (2018). Site Characterization Work Plan for Operable Unit 2: Groundwater and Cell Building Area, LCP Chemicals Site. August.

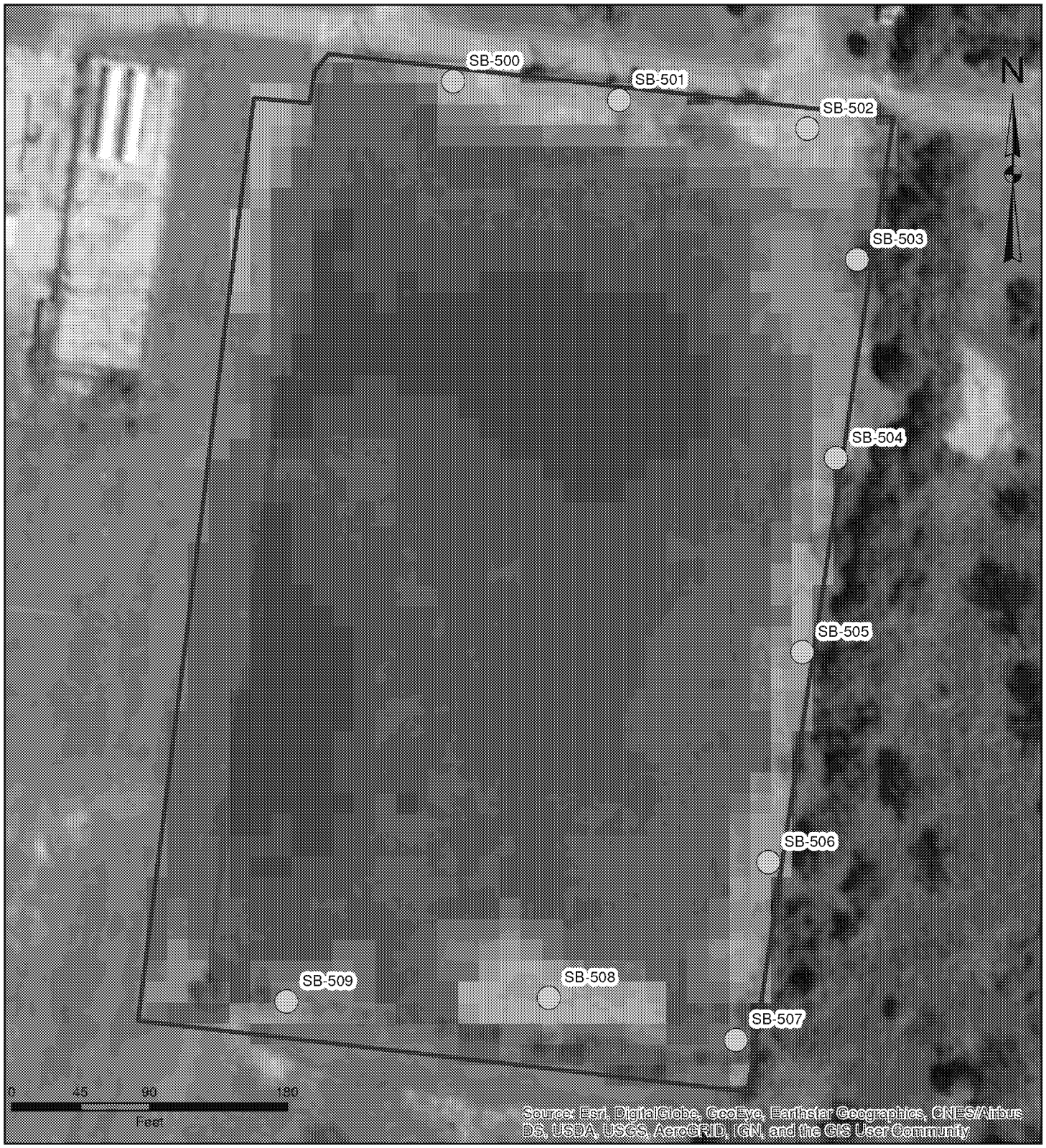
EPS (2020). Identification of Constituents of Potential Concern and Exposure Assessment, Human Health Baseline Risk Assessment Technical Memorandum, LCP Chemicals Site, Brunswick Georgia, OU2. October

EPA (1995). Administrative Order by Consent for Remedial Investigation/Feasibility Study. Docket N.95-17-C

EPA (2014). Soil Sampling *SESDPROC-300-R3*. August.

EPA (2017). Field Sampling Quality Control *SESDPROC-011-R5*. April.

FIGURES



Proposed Sample Locations

CBA Risk Evaluation Area

Estimated Soil Cover Thickness

- < 0.5 ft
- 0.5 - 0.75 ft
- 0.75 - 1 ft
- 1 - 1.25 ft
- 1.25 - 1.5 ft
- 1.5 - 1.75 ft
- 1.75 - 2 ft
- 2 - 2.25 ft
- 2.25 - 2.5 ft
- > 2.5 ft

Proposed Surface Soil Sample Locations
LCP Chemicals Site
Brunswick, GA

Environmental Planning Specialists, Inc.

Figure No. 1

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